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121603  
U.S.PTO

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UTILITY  
PATENT APPLICATION  
TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No. 29936/39880

First Inventor Ho Uk Song

Title OFF-CHIP DRIVER CIRCUIT AND DATA OUTPUT  
CIRCUIT USING THE SAME

Express Mail Label No. EV340912216US

PTO

10/736731

121603

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1.  Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original, and a duplicate for fee processing)
2.  Applicant claims small entity status.  
See 37 CFR 1.27.
3.  Specification [Total Pages 18]  
(preferred arrangement set forth below)
  - Descriptive title of the invention
  - Cross Reference to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to sequence listing, a table, or a computer program listing appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
4.  Drawing(s) (35 U.S.C. 113) [Total Sheets 7]
5. Oath or Declaration [Total Sheets 3]
  - a.  Newly executed (original or copy)
  - b.  Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional with Box 18 completed)
    - i.  **DELETION OF INVENTOR(S)**  
Signed statement attached deleting inventor(s)  
named in the prior application,  
see 37 CFR 1.63(d)(2) and 1.33(b).
6.  Application Data Sheet. See 37 CFR 1.76

MS Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

7.  CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission  
(if applicable, all necessary)
  - a.  Computer Readable Form (CRF)
  - b. Specification Sequence Listing on:
    - i.  CD-ROM or CD-R (2 copies); or  Paper
    - ii.  Statements verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

9.  Assignment Papers (cover sheet & document(s))
10.  37 CFR 3.73(b) Statement  
(when there is an assignee)  Power of Attorney
11.  English Translation Document (if applicable)
12.  Information Disclosure Statement (IDS)/PTO-1449  Copies of IDS Citations
13.  Preliminary Amendment
14.  Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
15.  Certified Copy of Priority Document(s)  
(if foreign priority is claimed)
16.  Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i).  
Applicant must attach form PTO/SB/35 or its equivalent.
17.  Other: \_\_\_\_\_

18. If a CONTINUATING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

 Continuation  Divisional  Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Prior application information: Examiner \_\_\_\_\_

Art Unit: \_\_\_\_\_

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

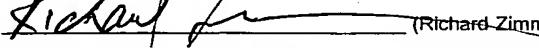
## 19. CORRESPONDENCE ADDRESS

|   |  |           |                |   |
|---|--|-----------|----------------|---|
| <input type="checkbox"/> Customer Number: | 04743  |           | OR             | <input type="checkbox"/> Correspondence address below |
| Name                                      | MARSHALL, GERSTEIN & BORUN LLP<br>Randall G. Rueth |           |                |   |
| Address                                   | 233 S. Wacker Drive, Suite 6300<br>Sears Tower     |           |                |   |
| City                                      | Chicago  | State     | IL             | Zip Code  |
| Country                                   | US   | Telephone | (312) 474-6300 | Fax (312) 474-0448                                    |

|                   |   |                                   |                        |
|-------------------|---|-----------------------------------|------------------------|
| Name (Print/Type) | Randall G. Rueth  | Registration No. (Attorney/Agent) | 45,887                 |
| Signature         |  |                                   | Date December 16, 2003 |

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV340912216US, in an envelope addressed to: MS Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: December 16, 2003

Signature:  (Richard Zimmermann)

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# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003, Patent fees are subject to annual revision.

 Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 770.00)

## Complete if Known

|                      |                       |
|----------------------|-----------------------|
| Application Number   | Not Yet Assigned      |
| Filing Date          | Concurrently Herewith |
| First Named Inventor | Ho U. Song            |
| Examiner Name        | Not Yet Assigned      |
| Art Unit             | N/A                   |

Attorney Docket No. 29936/39880

## METHOD OF PAYMENT (check all that apply)

 Check  Credit Card  Money Order  Other  None
 Deposit Account:

Deposit Account Number 13-2855

Deposit Account Name MARSHALL, GERSTEIN &amp; BORUN LLP

The Director is authorized to: (check all that apply)

 Charge fee(s) indicated below  Credit any overpayments Charge any additional fee(s) or any underpayment of fee(s) Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION (continued)

## 3. ADDITIONAL FEES

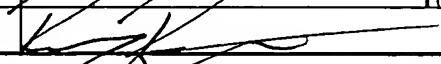
## Large Entity Small Entity

| Fee Code            | Fee (\$) | Fee Code | Fee (\$) | Fee Description  | Fee Paid |
|---------------------|----------|----------|----------|--|----------|
| 1051                | 130      | 2051     | 65       | Surcharge - late filing fee or oath  |          |
| 1052                | 50       | 2052     | 25       | Surcharge - late provisional filing fee or cover sheet                     |          |
| 1053                | 130      | 1053     | 130      | Non-English specification  |          |
| 1812                | 2,520    | 1812     | 2,520    | For filing a request for ex parte reexamination                            |          |
| 1804                | 920*     | 1804     | 920*     | Requesting publication of SIR prior to Examiner action                     |          |
| 1805                | 1,840*   | 1805     | 1,840*   | Requesting publication of SIR after Examiner action                        |          |
| 1251                | 110      | 2251     | 55       | Extension for reply within first month                                     |          |
| 1252                | 420      | 2252     | 210      | Extension for reply within second month                                    |          |
| 1253                | 950      | 2253     | 475      | Extension for reply within third month                                     |          |
| 1254                | 1,480    | 2254     | 740      | Extension for reply within fourth month                                    |          |
| 1255                | 2,010    | 2255     | 1,005    | Extension for reply within fifth month                                     |          |
| 1401                | 330      | 2401     | 165      | Notice of Appeal   |          |
| 1402                | 330      | 2402     | 165      | Filing a brief in support of an appeal                                     |          |
| 1403                | 290      | 2403     | 145      | Request for oral hearing   |          |
| 1451                | 1,510    | 1451     | 1,510    | Petition to institute a public use proceeding                              |          |
| 1452                | 110      | 2452     | 55       | Petition to revive - unavoidable   |          |
| 1453                | 1,330    | 2453     | 665      | Petition to revive - unintentional   |          |
| 1501                | 1,330    | 2501     | 665      | Utility issue fee (or reissue)   |          |
| 1502                | 480      | 2502     | 240      | Design issue fee   |          |
| 1503                | 640      | 2503     | 320      | Plant issue fee  |          |
| 1460                | 130      | 1460     | 130      | Petitions to the Commissioner  |          |
| 1807                | 50       | 1807     | 50       | Processing fee under 37 CFR 1.17(q)  |          |
| 1806                | 180      | 1806     | 180      | Submission of Information Disclosure Stmt                                  |          |
| 8021                | 40       | 8021     | 40       | Recording each patent assignment per property (times number of properties) |          |
| 1809                | 770      | 2809     | 385      | Filing a submission after final rejection (37 CFR 1.129(a))                |          |
| 1810                | 770      | 2810     | 385      | For each additional invention to be examined (37 CFR 1.129(b))             |          |
| 1801                | 770      | 2801     | 385      | Request for Continued Examination (RCE)                                    |          |
| 1802                | 900      | 1802     | 900      | Request for expedited examination of a design application                  |          |
| Other fee (specify) |          |          |          |  |          |

SUBTOTAL (1) (\$ 770.00)

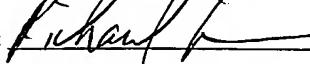
\*Reduced by Basic Filing Fee Paid SUBTOTAL (3) (\$ 0.00)

\*\*or number previously paid, if greater; For Reissues, see above

| SUBMITTED BY      |   | (Complete if applicable)             |                   |                          |
|-------------------|---|--------------------------------------|-------------------|--------------------------|
| Name (Print/Type) | Randall G. Rueth  | Registration No.<br>(Attorney/Agent) | 45,887            | Telephone (312) 474-6300 |
| Signature         |  | Date                                 | December 16, 2003 |                          |

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